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This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(c).

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60/561395

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TITLE OF THE INVENTION (280 characters max)

MULTI-SITE MANIFOLD INJECTION SYSTEM

Direct all correspondence to:

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ENCLOSED APPLICATION PARTS (check all that apply)



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Other (specify)



Application Data Sheet. See 37 CFR 1.76

ASSIGNMENT; COVER SHEET

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Respectfully submitted,

SIGNATURE



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04/12/2004

REGISTRATION NO.

27,792

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3154P

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MULTI-SITE MANIFOLD INJECTION SYSTEM

The present invention is generally directed to administration of a medicament and more particularly directed to a multi-site injection system for dermal delivery of a medicament.

SUMMARY OF INVENTION

10 A multi-site manifold injection system in accordance with the present invention generally includes a handle along with a syringe supported by the handle and including a plunger for dispensing a fluid medicament from the syringe.

15 A manifold is attached to one end of the handle and in fluid communication with a syringe and a plurality of needles, protruding from the manifold, are provided for delivery of the fluid medicament from the manifold and into a stratum corneum of a user.

20 In accordance with one embodiment of the present invention, the manifold may be disposed perpendicular to the handle and further comprise a plurality of concentric conduits interconnected with radial conduits.

25 The concentric conduits may be circular and radially spaced apart from one another.

In addition, a transparent sheet may be provided and interconnecting a concentric and radial conduits for enabling visual orientation of the manifold onto a patients' skin by manipulation of a handle.

5

Alternatively, the manifold may comprise a plurality of concentric conduits and a plurality of radial ribs supporting the plurality of concentric conduits. Preferably, the medicament utilized in combination with the syringe manifold and needle is botulinum toxin.

10

BRIEF DESCRIPTION OF THE DRAWINGS

The advantages and features of the present invention will be better understood with the following description when considered in conjunction with the accompanying drawings of which:

15

Figure 1 is a perspective view of the multi-site manifold injection system in accordance with the present invention generally showing a handle, a manifold attached to one end of the handle and a plurality of needles protruding from the manifold for delivery of fluid medicament from the manifold into a stratum corneum of a user, not shown; and

20
25

Figure 2 is a cross sectional view of the system shown in Figure 1 more clearly shown a syringe supported by the handle and including a plunger for dispensing the fluid medicament from the syringe.

DETAILED DESCRIPTION

With reference to Figures 1 and 2, there is shown a multi-site injection system 10 including a handle 12, a syringe 16, which includes a plunger 18 for dispensing a fluid medicament from the syringe and into a manifold 22, as illustrated by arrows 26 in Figure 2.

The handle 12, syringe 16, plunger 18 and manifold 22 may be formed by any suitable materials. As shown in Figures 1 and 2, the manifold 22 may be disposed in a generally perpendicular relationship with the handle 12 and plunger 18 and a plurality of needles 30 protruding from the manifold 22 for delivery of fluid medicament from the manifold 22 into a stratum corneum of a user (not shown).

The needles may be affixed to the manifold 22 in any conventional manner may be approximately 28 gauge with a length of approximately 1mm and include needle lumens 34 in fluid communication with conduits 38 of the manifold 22. The conduits may be concentric and in fluid communication with radial members 42.

In one embodiment of the present invention, the radial members may be hollow for providing fluid communication of medicament or alternatively in another embodiment of the present invention may be solid ribs for supporting the conduits 38.

A transparent sheet 46 may interconnect the conduits 38, 42 for enabling a constant pressure to be exerted over the entire area presented by the manifold 22 while enabling visual orientation of the manifold 22 onto a patients' skin (not shown) by manipulation of the handle 12.

In operation, finger pressure on the plunger 18 drives, or otherwise ratchets, a piston 50 disposed within the syringe for forcing medicament 54 downwardly through an exit port 56 and into the manifold conduits 38, as hereinabove noted, forcing medicament through the needle lumens 34 as indicated by the arrows 60. It should be appreciated that any suitable plunger, syringe, which may be fitted into the handle of the present invention is to be considered within the scope of the present invention.

Although there has been hereinabove described a specific multi-site manifold injection system in accordance with the present invention for the purpose of illustrating the manner in which the invention may be used to advantage, it should be appreciated that the invention is not limited thereto. That is, the present invention may suitably comprise, consist of, or consist essentially of the recited elements. Further, the invention illustratively disclosed herein suitably may be practiced in the absence of any element which is not specifically disclosed herein. Accordingly, any and all modifications, variations or equivalent arrangements which may occur to those skilled in the art, should be considered to be

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within the scope of the present invention as defined in the appended claims.

WHAT IS CLAIMED IS:

1. A multi-site injection system comprising:
a handle;
5 a syringe supported by said handle and including a plunger for dispensing a fluid medicament from said syringe;
a manifold attached to one end of said handle and in fluid communication with said syringe;
a plurality of needles, protruding from said
10 manifold, for delivery of said fluid medicament from said manifold and into a stratum corneum of a user.
2. The system according to claim 1 wherein said manifold is disposed perpendicular to said handle.
15
3. The system according to claim 1 wherein said manifold comprises a plurality of concentric conduits interconnected with radial conduits.
- 20 4. The system according to claim 3 wherein said concentric conduits are circular.
5. The system according to claim 3 wherein the concentric conduits are radially spaced apart from one
25 another.
6. The system according to claim 5 further comprising a transparent sheet interconnecting the concentric and radial

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conduits for enabling visual orientation of said manifold onto a patients skin by manipulation of said handle.

7. The system according to claim 1 wherein said
5 manifold comprises a plurality of radial conduits.

8. The system according to claim 7 further comprising a
plurality of concentric ribs supporting said plurality of
radial conduits.
10

9. The system according to claim 8 wherein the
concentric conduits are circular.

10. The system according to any one of claims 1-9
15 wherein the medicament comprises botulinum toxin.

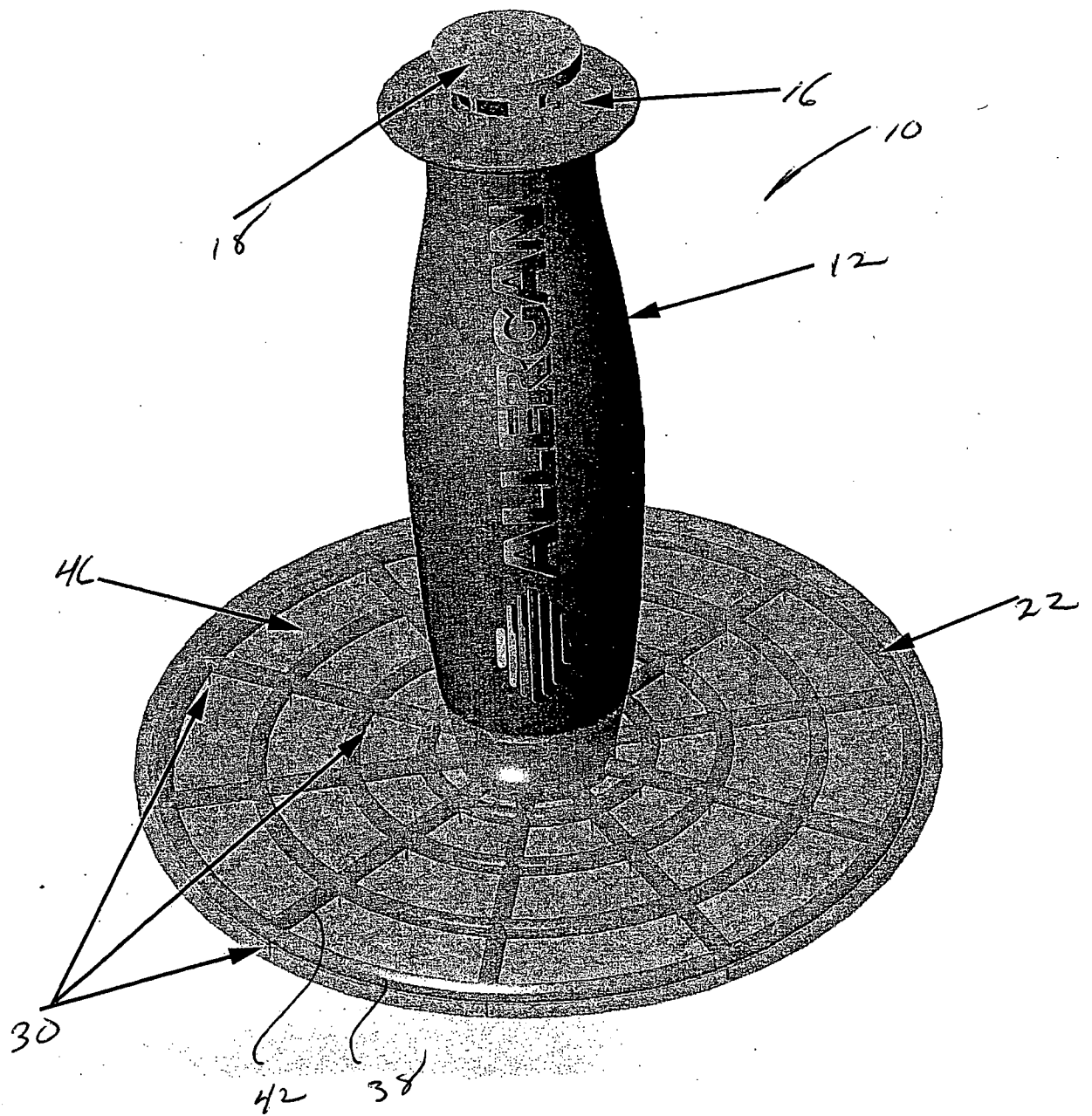


FIG 1

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